

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2004P19115WO	FOR FURTHER ACTION	
See Form PCT/IPEA/416		
International application No. PCT/EP2004/013112	International filing date (day/month/year) 18.11.2004	Priority date (day/month/year) 18.11.2003
International Patent Classification (IPC) or national classification and IPC G06K9/68		
Applicant SIEMENS AG ET AL.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> <i>(sent to the applicant and to the International Bureau) a total of sheets, as follows:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. <p>b. <input type="checkbox"/> <i>(sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</i></p>		
<p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application 		
Date of submission of the demand 12.05.2005	Date of completion of this report 31.10.2005	
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Sonius, M Telephone No. +31 70 340- 	

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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1-6 as originally filed

Claims, Numbers

1-19 as originally filed

Drawings, Sheets

1/11-11/11 as originally filed

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

- The amendments have resulted in the cancellation of:
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):
- This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-19
	No: Claims	
Inventive step (IS)	Yes: Claims	1-19
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

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1. Before a meaningful opinion regarding novelty and inventive step of the subject-matter of the claims can be formulated, the following should be noted with regard to sufficient disclosure, Article 5 PCT and related thereto, support by the description of the claims, Article 6 PCT.

1.1 From the description of the prior art, it follows that the invention would provide a selection criterium for choosing one from a plurality of disagreeing OCR results obtained with different OCR processes.

1.2 This criterium however cannot be derived from the description:

1.2.1 On page 4, lines 20 - 28, it is stated the OCR processes are polled according to preset categorizations. During set-up and later encoder (= human operator?) "truthting" (= manual correction by human operator ?) the performance for different categorisations is measured. The categorisations are:

- letter vs. flat vs. parcel (it is not clear what is a "flat")
- window envelope
- numeric vs. alpha character field
- character pitch and font
- skew
- handprint vs. machine print
- colour background
- interference background
- matrix print
- outward address ; inward address
- addressee
- endorsement
- stamp value

1.2.2 From the description, page 5, lines 16- 25, it appears that it is known a priori that the input image to the OCR processes concern numerics. How this knowledge is obtained however is not specified. Moreover, It is not clear what data is retrieved from the database, what is the weighted value referred to in line 21, and why the value, could not be within acceptable tolerances. Perhaps the categorisation is combined with results (confidence

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value?) from the OCR process?

1.2.3 In implementing the concept of the invention, the skilled person would face a number of problems:

- how to handle multiple applicable categories (e.g. letter, handprint, addressee)?
- how or whether to combine the category weight with the OCR results (different OCR processes can have incompatible confidence measures, cf. description, page 3, lines 1, 2;
- how to obtain knowledge which category to apply.

Furthermore, it is not clear how e.g. a "stampvalue" or "endorsement" categorisation could be linked with an OCR process.

1.3 Hence it is doubtful that the invention is disclosed in a manner sufficiently clear and complete to be carried out by a person skilled in the art.

2. Novelty and Inventive step, Art. 33 PCT

2.1 Reference is made to the following documents:

D1: US-A-3 634 822 (CHAO K. CHOW) 11 January 1972 (1972-01-11)

D2: SCHUERMANN J: "ZUR ZEICHEN- UND WORTERKENNUNG BEIM AUTOMATISCHEN ANSCHRIFTENLESEN" WISSENSCHAFTLICHE BERICHTE AEG TELEFUNKEN, ELITERA VERLAG. BERLIN, DE, vol. 52, no. 1/2, 1979, pages 31-38, XP002041702

D3: POWELL R W: "OPTICAL CHARACTER RECOGNITION SYSTEM IN LETTER MECHANISATION" BRITISH TELECOMMUNICATIONS ENGINEERING, BRITISH TELECOMMUNICATIONS ENGINEERING. LONDON, GB, vol. 6, no. PART 4 SUPPL, January 1988 (1988-01), pages 225-231, XP000005745 ISSN: 0262-401X

D4: US-A-6 125 208 (Maier et al.) 26 September 2000 (2000-9-26)

2.2 The most relevant prior art appears to be D1, which teaches to obtain font statistics, which bias the recognition process in applying different weights to OCR results obtained for different font-specific OCR modules (see summary). D1 does however not teach to select a single OCR process, and also there is no comparison of OCR results from different processes. Hence the subject-matter of claims 1 and 18 cannot be deemed to be

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rendered obvious by D1.

2.3 Other relevant prior art (D2, D3) describe the parallel use of different OCR processes dedicated to different character sets (D2: chapter "Classification"; D3: chapter 2.2). Also in this prior art there is no check on consistent or disagreeing results. The selection is simply made from the recognition process with the highest confidence value.

2.4 It is noted that the categorisation feature is essential in distinguishing the subject matter of the independant claims from D4, see abstract and figure 3. Hence the above observation under item 1 is of particular relevance.

2.4 Claims 2-15 are dependent on claim 1 and claim 19 is dependent on claim 18 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

2.5 It is noted that it follows from the feature regarding the comparison of the result of first and second optical character recognition (".. substantially similar..") that all recognition processes should be capable of outputting the same set of classes as results, even if this does not make sense for categorisations such as numeric vs. alpha.